the near future, and similar levels of efficacy and acquisition cost as key comparators In rare circumstances conducting an STA may not be cost-effective. It is possible that this can be predicted early in the STA process and we propose criteria to aid in this decision. When these criteria are met the possibility of "unreferring" the topic is likely to be the most cost-effective option.

PRM231

THE 2013 REVISION TO NICE'S DISCOUNTING GUIDELINES: DIFFERENTIAL DISCOUNTING HAS GONE BUT UNJUSTIFIED SELECTIVE APPLICATION REMAINS

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OBJECTIVES: To call attention to the problems resulting from the National Institute for Health and Care Excellence's (NICE) recent revision to their methods guidance on discounting, which recommends applying a lower discount rate than the reference case rate in selected cases. **METHODS:** NICE's reference case discount rate for costs and health effects is 3.5%. In 2011 NICE amended their economic appraisal guidelines recommending differential discounting of costs and health effects at 3.5% and 1.5% respectively in selected cases. A recently published article in Value in Health criticised this amendment on a number of grounds, including ambiguity over what are the eligible selected cases; the lack of rationale for selective application of differential discounting; the apparent inconsistencies that unjustified selective application give rise to; and, the size of the differential between the two discount rates. In April 2013 NICE published a comprehensive revision of their methods guidelines, in which equal discounting of costs and effects at 1.5% in selected cases is now recommended. **RESULTS:** While NICE's new 2013 guidance no longer includes an unjustified differential between the discount rate on costs and health effects, it still recommends the application of lower discount rates in selected cases. The revised guidance still offers no rationale for such selective application of lower discount rates. This means that many of problems described in the recently published critique of the 2011 amendment still apply to the new 2013 guidance, including a particularly worrying potential for age discrimination. **CONCLUSIONS:** NICE's selective application of lower discount rates in certain cases is not justified and leads to inconsistencies in the appraisal of different interventions. NICE is urged to again revise their discounting guidance, this time ensuring all interventions are treated equally and are subject to the same discount rates.

PRM232

A FLEXIBLE MULTI-STATE MODELLING FRAMEWORK FOR THE SIMULATION OF CANCER PROGRESSION AND CANCER CARE

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Most cost-effectiveness models for evaluation of cancer care compare interventions within a single treatment line. However, to investigate the full impact of a new treatment, also downstream effects must be taken into account. Furthermore, most models are based on observed clinical states, whilst these observations depend on the timing of examinations and the choice of diagnostic test. To evaluate the potential of new treatments and diagnostics, the underlying disease process needs to be modeled including the interaction with diagnostics and treatment.**OBJECTIVES:** To build a flexible framework for a disease model, that simulates cancer progression to obtain clinical, patient and economic outcomes, while taking diagnostics treatment pathways and surveillance schedules into account . **METHODS:** The modeling framework discerns two levels to describe disease progression, the level of the patient and the tumor. At the patient level, an individual is characterized by clinical states; "primary tumor only", "local recurrence", "regional recurrence", "distant metastasis, stable", "distant metastasis, progressing" and "death". The clinical state is derived from disease development at the tumor level. Seven tumor growth states are defined: "absent tumor", "dormant tumor", "micro tumor", "small macro tumor", "medium macro tumor", "large macro tumor", "symptomatic tumor". Melanoma progression was used as a case study. The model simulates, in parallel, 11 possible tumor sites, ranging from "local" to "regional" and "distant metastatic" locations. Sites were chosen because they are associated with different treatment and prognosis. The disease model is complemented with a treatment and surveillance module. In this module, treatment choices in each of the clinical states are specified. Treatment choice may depend on patient and tumor features, and subsequently influences rate of transitioning between tumor growth states. For surveillance, timing of surveillance visits, techniques used and their detection rate(s) are specified. **CONCLUSIONS:** The proposed framework provides a flexible and widely applicable cancer modeling design.

PRM233

HOLISTIC DATA GENERATION AND SYNTHESIS FOR HTA ASSESSMENT: BRINGING TOGETHER COMPARATIVE EFFECTIVENESS RESEARCH, PERSONALISED MEDICINE AND PATIENT-CENTRED OUTCOMES RESEARCH

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Defining value and generating innovation in health care relies increasingly on real world evidence. Consequently, there is an ongoing evolution in the data needs for health technology assessment (HTA). Three key elements of data generation are comparative effectiveness, personalised medicine and patient-centred outcomes. Integrating these three to support synthesis via systematic reviews, meta-analyses and modeling is necessary to maximise value and drive innovation. Effectiveness is not just about reduced morbidity and mortality. It now covers quality of life, patient satisfaction, intermediate endpoints, and screening/diagnosis/monitoring. Additionally, there is a shift away from effectiveness versus placebo to comparative effectiveness versus other technologies or standards of care in the real world, focusing on the effect on health outcomes in defined patient populations based on ethnicity, comorbidities or age. Personalised medicine signals another shift of focus away from broad, homogenous patient populations to small, more-or-less defined patient subgroups. For example, in oncology, markers such as KRAS, HER-2/neu and BRCA 1,2 are used for prognosis and to direct treatment. To reflect this evolution, comparative effectiveness research programme designs and analytical methods must be able to detect important treatment effects and outcomes for specific patient subgroups. The emergence of patient-centered care adds further complexity to HTA data requirements. The systematic collection of patient-reported outcomes (PROs) and their application to medicine is far from standard in clinical practice, although many clinical trial programmes now include the collection of PROs. For products in development, data generation plans must reflect ongoing changes and evolving complexities. We will review the growing range of methods employed in clinical effectiveness research, and show how personalised medicine and patient outcome programmes can strengthen HTA data packages.

PRM234

AN ANALYSIS OF HOW NOT TO USE COST-EFFECTIVENESS ANALYSIS FOR PRICE-SETTING

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OBJECTIVES: Cost-effectiveness Analysis (CEA) and the calculation of the Incremental Cost-Effectiveness Ratio (ICER) together with its comparison with a threshold such as Gross Domestic Product (GDP)/capita, have long been used to assess the value for money of a new intervention compared with a comparator that this new intervention precisely seeks to displace. In this paper we show the paradoxical increase in cost-effective price using data from middle, low and very low income settings. **METHODS:** Using the introduction of rotavirus vaccination compared with no-vaccination as the example. We create a theoretical framework for calculating the ICER by gradually decreasing the investment for treatment of rotavirus related disease (the 'no-vaccination comparator') representing different countries with different GDP levels and decreasing levels of existing health care investment. We compare these results with an analysis of cost-effectiveness using real data from 9 countries representing a range of different GDP levels. **RESULTS:** The theoretical framework works well in situations where the GDP/capita exceeds $10,000 – as expected the cost-effective price decreases with a decrease in the GDP/capita. Below this the scant investment in health care infrastructure, thereby reducing potential cost-offsets, coupled with the significant increase in the potential effect gain, results in a much wider margin between a cost-neutral and cost-effective price that could effectively be set using this approach. **CONCLUSIONS:** Although Cost-Effectiveness Analysis is widely used to assess the value for money of a new intervention for a particular price, we would argue that where investment in health care is low and disease burden is high, the use of CEA leads to paradoxes in price-setting.

PRM235

RE-ENGINEERING OF THE DISTRIBUTION OF DRUGS IN THE HOSPITAL. TOC APPLICATION AND TRZ

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OBJECTIVES: Presents a reengineering process of the distribution of drugs into the hospital, analyzing all the options available in the market, and looking for alternative solutions that may be more cost-effective. **METHOD:** The processes and subprocesses in the cycle from prescribing, distribution, and drug administration, are defined and discussed based on studies of medication errors (ME). The differential analysis is performed on the subprocesses. As technique for finding creative solutions (new cost-effective alternatives) apply the Theory of Constraints (TOC), and the TRIZ methodology. **RESULTS:** Since patient safety can distinguish four processes: prescription (about 40% of ME), transcription, distribution (about 10% each), and administration (about 40% of ME). In the administration, avoided ME before they reach the patient are minimal (only 2%). In the prescription/transcription there are 4 options: manual prescription, preprinted sheets, electronic prescription, and assisted prescription. In the distribution has 3 options: clasical SUD, filling carts using automated carousels, and automated dispensing systems (ADS). For administration there are other 3 options: manual record, electronic registration, and registration across the barcode. The most expensive option would be the introduction of ADS in all plants (1.4 million€ for a hospital of 280 beds). But these teams only reduces errors about 10% of all ME. Applying the TOC and TRIZ, investment in electronic prescribing, and administration with barcodes is the most cost-effective. Dose-day (sending medication for one day but not rated by patient) could be the most efficient system by simplifying processes. The error difference between Dose-day, and SDU can be annulled by the advantages of the assisted prescription, and administration with barcode **CONCLUSIONS:** It is surprising to invest large sums in improving distribution processes (ADS) - where the fewest mistakes occurs - instead of prescribing and administration. The dose-day with barcode administration would be the most cost-effective theoretical-model.

PRM236

HOW CAN HEALTH ECONOMIC ASSESSMENT METHODS HELP DECISION MAKING IN PORTFOLIO DEVELOPMENT

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OBJECTIVES: The R&D costs of a new drug approximate $1.3 billion and are increasing due partly to regulatory hurdles and development costs. There is a need for smarter investments, which consider the requirements of regulatory bodies, increasing the chances of securing market access and high return on investment. We describe how health economic methods could support capital investment decisions in funding, valuing and bringing new pharmaceuticals to market. **METHODS:** A literature review was performed on health economic and capital investment methods. The different analyses were mapped to the commercial roadmap and R&D pipeline